

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

Ex parte CURTIS P. SMITH,  
JOHN W. REISCH  
and RICHARD J. FEEGEL

---

Appeal No. 1997-1907  
Application No. 08/265,369

---

ON BRIEF

---

Before WARREN, OWENS, and KRATZ, Administrative Patent Judges.  
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 14, which are all of the claims pending in this application.

BACKGROUND

At the outset, we note that U.S. application No. 08/376,270 was filed on January 23, 1995 as a continuation-in-

part of the present application and U.S. application No. 08/430,083 was filed on April 27, 1995 as a divisional of the present application<sup>1</sup>. Both related and copending applications are also before us on appeal (Appeals No. 1997-1991 and 1997-2384, respectively).

Appellants' invention relates to a composition comprising a dispersion of a polyurethane in water and a method of preparing the composition. An understanding of the invention can be derived from a reading of exemplary claims 1 and 8, which are reproduced below.

1. A composition being an aqueous dispersion of a polyurethane in water, said composition comprising water and the reaction product of:

(a) a water-dispersible isocyanate-terminated polyurethane prepolymer having an NCO content of between 2.1 and 10% by weight,

(b) an organic polyisocyanate adduct mixture comprising a polyisocyanate uretdione and a polyisocyanate isocyanurate and having an average isocyanate functionality of between 2.1 and 4.0, and

---

<sup>1</sup> In stark contrast, appellants inexplicably state that "no related applications have yet been filed off of this original application." See page 2 of the brief filed on March 01, 1996 (certificate of mailing dated February 21, 1996) and 37 C.F.R. § 1.192(c)(2) (1995).

(c) an active hydrogen-containing chain extender.

8. A process for preparing an aqueous dispersion of polyurethane which comprises reacting, in an aqueous medium, a reaction mixture comprising:

(a) a water-dispersible isocyanate-terminated polyurethane prepolymer having an NCO content of between 2.1 and 10% by weight,

(b) an organic polyisocyanate adduct mixture comprising a uretdione and a isocyanurate and having an average isocyanate functionality of between 2.1 and 4.0, and

(c) an active hydrogen-containing chain extender.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Mosbach et al. (Mosbach)	5,098,983	Mar.
24, 1992		
Coogan et al. (Coogan)	5,169,895	Dec. 08,
1992		

Claims 1-14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Coogan in view of Mosbach.

#### OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. In so doing, we find ourselves in agreement with appellants that the examiner fails to establish a *prima facie* case of obviousness<sup>2</sup> for the claimed subject matter.

---

<sup>2</sup> We note that it is the examiner who bears the initial burden of presenting a *prima facie* case of obviousness in

Accordingly, we will not sustain the examiner's rejection, as stated.

Coogan discloses a composition comprising an aqueous dispersion of polyurethane and a method of making the same.

The composition<sup>3</sup> is a product of the reaction of:

- (a) a water-dispersible isocyanate-terminated polyurethane prepolymer having an NCO content of 2.1 to 10% percent by weight,
- (b) an organic polyisocyanate having an average isocyanate functionality of 2.1 to 4.0, and
- (c) an active hydrogen-containing chain extender.

The prepolymer reactant of Coogan is disclosed as being made from an organic diisocyanate, a polyol having a specified molecular weight range and a specified compound having a hydrophillic center (column 2, lines 12-19). Coogan (column 2, lines 31-35) further teaches that mixtures of polyisocyanates may be used and a variety of modified polyisocyanates that have "... urethane, allophanate, urea, biuret, carbodimide, uretonimine or isocyanurate residues" introduced therein are useful in making the prepolymer.

---

rejecting claims under 35 U.S.C. § 103. *See In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

<sup>3</sup> Coogan, column 2, lines 6-11.

The examiner takes the position that Coogan does not disclose the use of the claimed dimer (polyisocyanate uretdione)

portion of reactant mixture component b of the appealed subject matter (claims 1 and 8) and hence does not disclose the claimed composition comprising a reaction product of appellants' claimed components a, b and c or the process of making same (answer, page 2). In an attempt to remedy this acknowledged deficiency, the examiner additionally relies on the teachings of Mosbach.

According to the examiner (answer, page 3),

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include dimers in Coogan's dispersible binder composition because Mosbach shows this as a way of making films that, upon heating, further cure to yield films having higher hardness values (col. 7, line 20) because the dimers revert back to isocyanate groups on heating to enable further reaction.

The examiner further states (answer, pages 3-4):

It would have been obvious to choose trimers or isocyanurates from Coogan's list of polyisocyanates because it's well known in the art what characteristics isocyanurates will provide coatings. It would have been obvious to also include dimers because [M]osbach shows the improvement dimers provide for coatings.

However, on this record, we disagree with the examiner's views on this matter. At the outset, we note that "[b]efore the PTO may combine the disclosures of two or more references

in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art." *In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943-44 (Fed. Cir. 1992); *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598-99 (Fed. Cir. 1988).

Here, the examiner makes reference to Example 1 of Mosbach (answer, page 3) where Mosbach discloses the use of a mixture of a uretdione diisocyanate (dimer) and an icocyanurate polyisocyanate (trimer) as part of a polyisocyanate mixture having an NCO content of 21.6 percent which is mixed with dimethoyl propionic acid and N-methyl morpholine until the NCO content of the mixture is reduced to 15.3 percent. The mixture is subsequently cooled, a solution thereof is applied to a glass plate and then dried to form a film thereon. The examiner additionally makes reference to column 6, lines 42-45 of Mosbach wherein the preparation of an aqueous dispersion of a partly neutralized polyisocyanate mixture is discussed and column 7, line 34 of Mosbach wherein a hardness value is reported for an oven dried film of a polyisocyanate mixture made from the starting components of



the polyisocyanate mixture of Example 1 together with 2,2-bis-(hydroxymethyl)-propionic acid (DMPA) and N-methyl pyrrolidone (NMP).

From our perspective, the particularly identified and isolated teachings of Mosbach, regarding the use of an isocyanate dimer in a polyisocyanate mixture that is dispersed in water and used as a coating film, and with the teachings of Coogan, regarding the formation of a water dispersible polyurethane made from a water-dispersible polyurethane prepolymer, an organic polyisocyanate and a chain extender, taken together with the examiner's obviousness statements do not render appellants' claimed composition and process of making the same *prima facie* obvious.

This is so since the examiner has not particularly addressed how the teachings of Mosbach regarding particular polyisocyanate mixtures would have suggested a modification of the prepolymer reactant of Coogan which is formed from a specified polyol, a specified compound containing a hydrophillic center and diisocyanate, or suggested a modification of the separately identified organic polyisocyanate reactant (b) of Coogan in a manner so as to

necessarily result in the claimed process and form appellants' claimed composition upon reaction. In this regard, the examiner has not adequately explained how the furnished evidence would have led one of ordinary skill in the art to modify the diisocyanate reactants of Coogan based on the teachings of Mosbach that were selected by the examiner in a manner so as to arrive at the claimed invention herein and such that the ordinarily skilled artisan would have had a reasonable expectation of success in making this modification. See *In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991); *In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed.

Cir. 1988); *In re Longi*, 759 F.2d 887, 892-93, 225 USPQ 645, 648 (Fed. Cir. 1985).

We note that the mere fact that the prior art may be modified to reflect features of a claimed invention does not make the modification(s) *per se* obvious. In this regard, appellants' invention cannot be used as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious. See *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

For the foregoing reasons, we find that the examiner has not established a *prima facie* case of obviousness. Because we reverse on this basis, we need not reach the issue of the sufficiency of the asserted showing of unexpected results (brief, pages 7 and 8). See *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987).

CONCLUSION

The decision of the examiner is reversed.

REVERSED

CHARLES F. WARREN	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
TERRY J. OWENS	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
PETER F. KRATZ	)	
Administrative Patent Judge	)	

Appeal No. 1997-1907  
Application No. 08/265,369

Page 13

DALE L. CARLSON  
WIGGIN & DANA  
ONE CENTURY TOWER  
NEW HAVEN, CT 06510-7001